

Over the Reich™

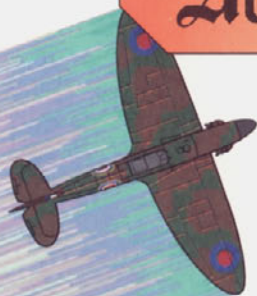


GAME GUIDE



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Over the Reich

TABLE OF CONTENTS

Tutorial

Setup	4
Battlemap	6
How to Move	8
How to Fire	9

Game Features

Rockets	10
Bombing & Strafing	11
Combat Mission	12
Tour of Duty	14
Skill Levels	16
Internet Play	19
Game Menus	20
Airplane Database	21

Briefing

Combat Tactics	22
Historical Background	24

Package Contents

Over the Reich Game Guide
Over the Reich Loading Instructions
Over the Reich Registration Card
Over the Reich CD ROM
The CD must be in the drive to play.

INTRODUCTION

Thank you for purchasing *Over the Reich*. Please take a moment to complete and mail the game's registration card. If you have any problems or questions about the game, please use our Technical Support services listed on the back cover.

Over the Reich is a turn-based strategy game of air combat over northwestern Europe during the last half of World War Two, 1943-1945. You can fight single air battles, fly historical missions, or serve an entire tour of duty. Take command of one fighter in a dogfight or a whole squadron of front-line airplanes through the final years of the war.

All of the pilots and airplanes under your command have unique skills and characteristics that affect how they fly in combat. In the campaign, you select the pilots and weapons and make coordinated battle plans. You choose the tactical maneuvers in swirling dogfights. This is not a flight simulator—you do not need fast reflexes with a joystick. All you need is tactical smarts. Are you ready to fly *Over the Reich*?

Note: Windows 95 users should turn off their "task bar" because it will obscure parts of the game window.

WEBSITES

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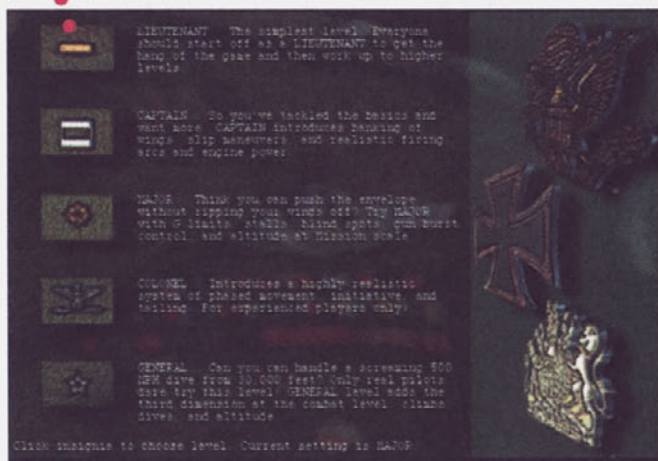
TUTORIAL: SETUP

This tutorial will get you playing a dogfight as quickly as possible. After the opening animations, you will see the Office screen at right. Follow the nine steps listed here to start a scenario.

1 Click here to set the Skill Level.

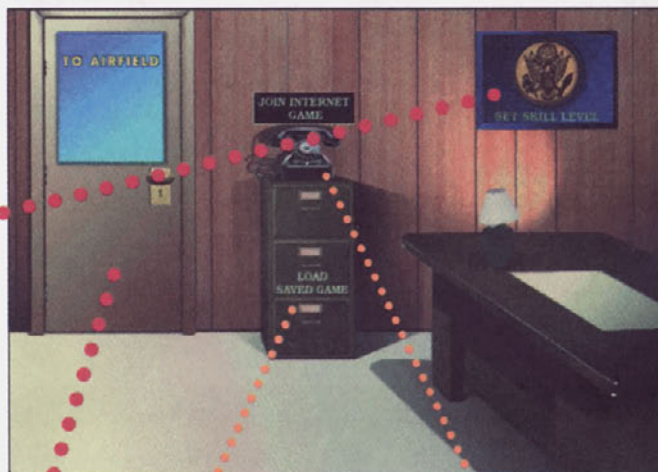
2 Click on Lieutenant (easiest level).

See page 16 for more details on Skill Levels.



4 Click on U.S. Army Air Corps poster.

You may fly for one of three nations.



Join Internet Game (click on phone)
Load a Saved Game (click on file cabinet)

3 Click on door for New Game.

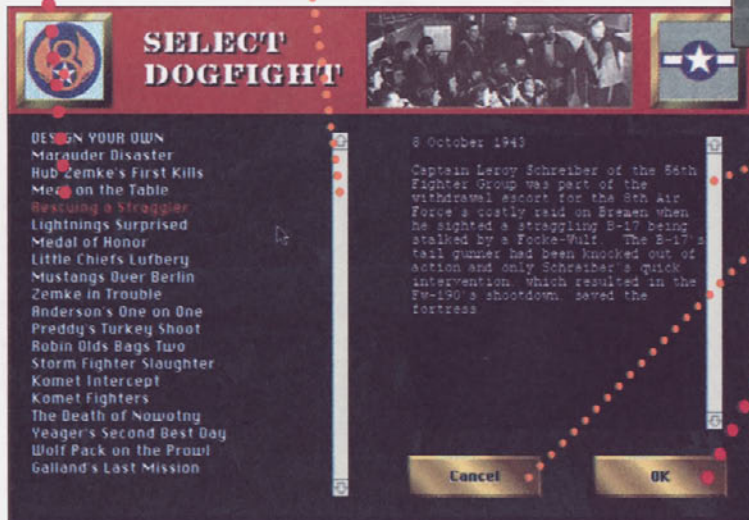


5 Click on Dogfight button.

You will fight a single air battle. See page 12 for Combat Mission, and page 14 for Tour of Duty.

6 Click on 'Rescuing a Straggler.'

The scenario you select will be highlighted in red. Use the scroll bar to move through the list.

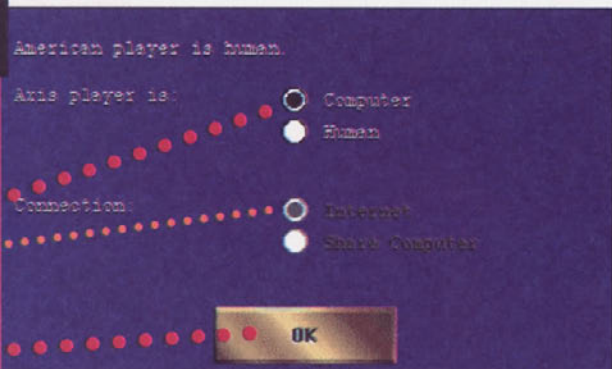


Description of selected scenario.

Click on Cancel to return to the Office screen.

7 Click on OK to accept.**8** Select opponent of your choice.

See page 19 for details on Internet play.

9 Click on OK to start the dogfight.

TUTORIAL: BATTLEMAP

Dogfights take place on the Battlemap. In each game turn, both sides' forces will move and fire on the map. All aircraft move and fire at the same altitude (unless you are playing at the General skill level).

3-D Battlemap

There are three ways to scroll the 3-D isometric Battlemap:

1. Move your mouse cursor to the edge of the screen and the map will autoscroll in that direction.
2. Click on the scroll buttons at the bottom left corner of the screen.
3. Click on the 2-D Radar View. The Battlemap will center on the point where you click.

2-D Radar View

The small, gray rectangle shows the screen border of the Battlemap. The dots represent aircraft and targets: Blue dots are **friendly** aircraft, red dots are **enemy** aircraft, green dots are **ground** units, and the white dot is the selected aircraft.

Active Fighter and Movement Path

Friendly Bomber (controlled by computer)



Battlemap Scroll Buttons

Pilot of Selected Aircraft

Armed Weapon Icons

Go Button

Flight Controls

Description Panel

Place the mouse cursor over any part of the screen and a description will appear in this panel.






Damage & Ammunition Readout
(Click on it to get a detailed report.)

Pilot Experience Level

No Star	Recruit (poorly trained)
★	Green (well-trained but inexperienced)
★ ★	Regular
★ ★ ★	Veteran

Pilot Characteristics

Icons will appear under the pilot's experience level indicating his special characteristics, if any.

-  **Keen Eyes:** Gives your squadron a better chance of spotting the enemy first so you can decide whether to fight or run (only applicable in Tour of Duty). Icon does not appear on Battlemap.
-  **Hero:** A morale booster for your men (superman). Only applicable at the Colonel and General skill levels.
-  **Crack Shot:** An accurate shooter.
-  **Ace:** Has shot down five or more enemies in his career. Gives various combat-related bonuses.
-  **Gifted Flyer:** Able to squeeze extra performance out of his airplane.

Armed Weapon Icons



Guns



Rockets



Bombs

Click on the weapon icon you wish to arm. The icon is brightly lit when armed. Note: In most air-to-air battles, you only have guns, so no rocket or bomb icon is displayed.

☆ GAME SCALES ☆

Battlemap: 100 yards per unit of range

Game Turn: 4.1 seconds

Change Zoom

You can toggle between a zoomed-in and zoomed-out view of the map by selecting the "Change Zoom" item from the Battlemap menu at the top of the screen.



TUTORIAL: HOW TO MOVE

When it is your turn to move, the computer prompts you by selecting one of your aircraft. The selected aircraft is floating (jiggling) on the screen, and a movement path of red arrows extends from it. You can also click on another friendly aircraft to move it instead (unless playing at the Colonel or General skill levels). Aircraft that have not moved yet have blinking white dots on them.

Movement Path

There are four ways to change an aircraft's movement path:

1. Click and drag the Flight Stick right or left (you can climb and dive only in the General skill level).
2. Click and drag the cursor on the Battlemap in front of the airplane.
3. Click on the left or right Fine Motion buttons underneath the Flight Stick (or press the "<" or ">" keys respectively).
4. Click on an enemy airplane to automatically select a path that offers the best chance of attacking it.

Throttle

Click and drag the throttle up or down (or turn the aircraft) to change its speed for the *next* game turn as shown on the Speedometer. To use Emergency Power, push the throttle all the way forward until the red lamp is on. To brake, pull the throttle back until the Brake light is on.

Click on an enemy airplane to select a path for yours that offers the best chance of attacking it.

After choosing a path, click the Go button (or press the *spacebar*), and the airplane will move.

Click on this button (or press the *back-space* key) if you want to view your aircraft's weapons before it moves.



Speed of selected aircraft **this** turn

Speed of selected aircraft **next** turn

Throttle

Flight Stick

Fine Motion buttons

GO

Sometimes you will see red crosshairs appear over enemy airplanes as you adjust your flight path. This means your flight path is taking you to a position where you can fire at one of those enemies. The numbers on the crosshairs range from 0 (worst) to 100 (best) and indicate how good a shot you can get.

Most of the time you must move before firing. However, there is one case when you may fire before moving: if an enemy is in front of you and facing you (this allows you to return head-on fire). The target crosshairs will be larger than normal to indicate this.

If there are any crosshairs on the screen (i.e. chances to fire at enemies) the game will pause. You may:




Click on a crosshair to fire,

OR click on the Hold Fire button.



Info about selected gun icon

Click on gun icon to arm or safe it.

-  Armed
-  Safed
-  Out of Ammo/Jammed

Safing Guns

Before you fire, you may want to click on particular guns in the weapons display to “arm” or “safe” them. You may want to “safe” a gun, for example, if you are trying to save precious heavy-cannon ammunition while still using your regular machine guns. The German Bf 109 and Fw 190 fighters will use this technique often—it is less important for most American fighters which only have one type of gun, the .50 caliber machine gun.

✪ END OF TUTORIAL ✪

You are now prepared to rescue that straggler. When you are ready to explore other features of the game, refer to the appropriate sections of this manual. Good luck!

ROCKETS

In some battles, aircraft may carry rockets in addition to their guns. Allied rockets are primarily air-to-ground, and German are air-to-air, but rockets may be used against any target. An aircraft's speed and performance is reduced while carrying external armaments (rockets or bombs).

The maximum range of rockets (including altitude) is 10 to 20 (depending on type), but they are only accurate out to about a range of 6.

Air-to-Ground Rockets

To fire an air-to-ground rocket, an aircraft must meet these prerequisites:

- May not turn harder than **3G**.
- Must be level or diving.
- In the General skill level, the target must be at least as distant horizontally as vertically, and the firer must be at low altitude (300 feet is best).

Air-to-Air Rockets

To fire an air-to-air rocket, an aircraft must meet these prerequisites:

- May not turn harder than **3G**.
- Must be in level flight.
- Can fire only at target's rear.

Air-to-air rockets (except for the German R4M carried by the Me 262 jet) have a *minimum* firing range of 3. Aerial rockets tend to be pretty inaccurate. The Germans would fire them in great massed volleys from medium to long range and hope for a hit or two before closing to guns range. Even a single rocket hit is pretty devastating.

The numbers shown in the crosshairs are actual percentages for a hit. For example, "38" means each rocket fired has a 38% chance of hitting.

Click on a crosshair to fire at that target,
OR click on the Hold Fire button.



Click on rocket icon to arm or safe it.

Click on "Rocket" to select rockets or "Gun" to select guns (or press the *enter/return* key). You may only fire one weapon type per move.

Some aircraft may carry bombs in addition to their guns. The number and size of bombs carried affects the aircraft's performance and speed. When released, bombs take a few game turns to impact. Many will miss the target, and some will miss widely (there were no smart bombs in World War Two!). In general, bombs are powerful but inaccurate.

To drop a bomb, the active aircraft must meet these prerequisites:

- May not turn greater than 6G, but flying in a straight path greatly improves accuracy.
- Must be banked upright.
- Target must be within a range of 10 (altitude not included).
- If playing with altitude (General skill level), must be below 10,000 feet and in level flight or diving. A vertical dive gives best accuracy.

Napalm should be dropped from very low altitude or else it will rarely hit the target. Incendiary/napalm bombs work best against targets in woods.

Strafing

You may also fire at ground targets with your guns—just like firing at airplanes. Smaller guns are less effective against tanks (20mm or larger cannon are much better).

When playing at the General skill level, you must be level or diving to strafe, and at low altitude (altitude is considered part of the "range to target"). Below 1000 feet will achieve reasonable accuracy (300 feet is best).

To jettison an aircraft's bombs or rockets, select "Jettison External Armaments" from the Pilot menu.

Click on a crosshair to release bomb,
OR click on the Hold Fire button.



Click on bomb icon to arm or safe it.

Click on "Bomb" to select bombs or "Gun" to select guns (or press the *enter/return* key). You may only use one weapon type per move.

COMBAT MISSION

A Combat Mission simulates an entire mission from takeoff to landing. Your group of aircraft takes off from its home base either on a patrol or on a flight toward a main target. The group often encounters enemies along the way—so you have to fight your way in and out in a series of battles, but you don't know who you will run into, if anyone.

Air encounters

Visual contact with the enemy begins at a distance and is reported to you by your pilots and shown by historical video footage. Combat may or may not ensue depending on your decisions.

First Spot: One side will spot the other side first, and this gives the spotter the ability to decide whether to engage or avoid contact. This is a powerful advantage. Pilots with "keen eyes," airplanes with good cockpit visibility, and large size of enemy airplanes (i.e., bombers) help gain "first spot."

When you spot enemy airplanes, the number and type of airplanes reported to you is not always accurate. For example, your pilots may say they see five Me 110s when in fact there are six 110s and two Fw 190s.

Escape/Pursuit: If your group fails to gain "first spot" and is attacked by enemy airplanes, you will be given the choice to escape or fight. If you attempt to escape but fail, the enemy will be right on your tail in a highly advantageous position, so escape attempts can be risky. Faster airplanes obviously have an advantage.

If you do gain "first spot," you have the choice to attack or avoid contact. You will be told the "o'clock" position you occupy relative to the enemy. "Twelve o'clock" is in front of the enemy, while "six o'clock" is to his rear. If you choose to fight, your airplanes will

make an attempt to get further to the rear of the enemy before the fight begins. The enemy may or may not spot you before combat begins. If he does, he will maneuver to face you. Thus the positioning of your airplanes when you enter combat may be different from the "o'clock" position reported to you when you first spotted the enemy.

If you enter combat you will play out the combat much like a dogfight scenario. Any of your airplanes that survive the combat (including those that safely disengage from combat) will return to the mission map to continue the mission. Note that reinforcements for either side can often arrive during a battle, so keep your eyes open!

Surprise: Sometimes the defenders are surprised by the attackers. In this case, the defenders are not allowed to maneuver on their first move. Instead, the computer moves them straight ahead. Surprised airplanes with damaged radios may not maneuver for two full moves.

Because bombers have so many crewmen looking in all directions, it is nearly impossible to surprise a group of bombers and their escorts. Thus, the escorts are able to (somewhat) restrict the angle of approach for the interceptors.

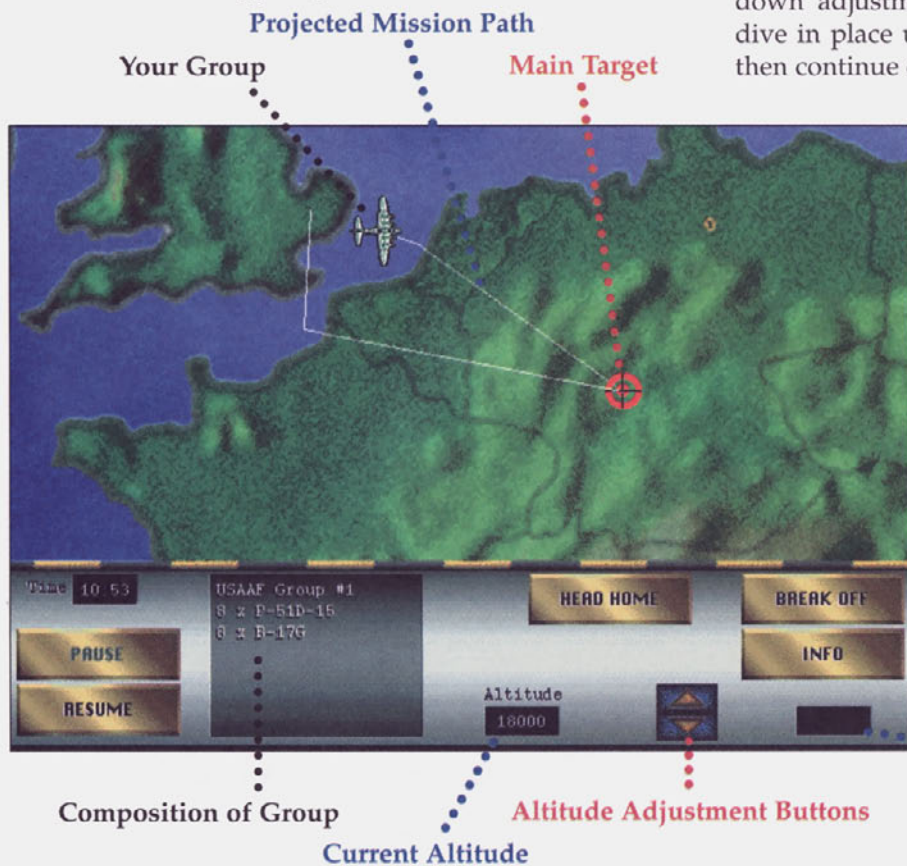
Head Home or Break Off

If your group gets clobbered early in the mission, you might consider clicking on the Head Home button to abort the current mission and redraw your mission path as a straight line home. The group may still encounter the enemy, but the mission will be shorter.

Alternatively, you may wish to send home only certain elements of your group (such as the heavily dam-

aged aircraft). Click on the Break Off button and select the aircraft you wish to return home. These will move as a separate group in a straight path home while the remaining aircraft will continue on with the mission.

Both the Break Off and Info screens provide information about your group's aircraft, including each aircraft's maximum speed, percent of ammunition remaining, percent of damage and whether the pilot is wounded or his oxygen system is out.



Mission Altitude

If playing at the Major skill level or higher, you may select a flying altitude for your group. If your group has broken into two or more separate groups, you may select a flying altitude for each group (click on the aircraft icon of the group you wish to select). Altitude is given in increments of 300 feet.

To change a group's flying altitude, click on the up or down adjustment buttons. The group will climb or dive in place until it reaches the desired altitude and then continue on its mission path.

Some airplane types have ceilings that are higher than others. Also, keep in mind that some airplanes fight better at either high or low altitude (see the online Airplane Database for performance data).

Airplanes that lose their oxygen systems are forced to fly no higher than 13,000 feet.

When flying "on the deck" (i.e., at 300 feet—the lowest possible altitude), you are less likely to encounter enemy airplanes because you are hard to track on radar. This can be useful if you are beat up and trying to sneak home.

• **Desired Altitude** (blank if the same as Current Altitude)

TOUR OF DUTY

The Tour of Duty covers the whole air war in the west following the arrival of the Americans in large numbers, 1943 to 1945. It is divided into "seasons" (e.g., "Early 1943") in which a specific phase of the war takes place. You command a squadron of fighters that fly several combat missions in each season. Your success or failure decides what happens next in the war—so fight bravely! For example, as the Allied player, if you succeed in softening up German defenses in early 1944, the D-Day invasion will follow; but if you fail, the invasion will be delayed.

Victory is recorded at the end of each mission, and these determine the outcome of the season. You may earn a Major Victory, Minor Victory, Draw, Minor Defeat or Major Defeat.

The objective of the Allies is to win the war as quickly as possible. More mission victories will help accomplish this. In certain phases of the war, especially during the "Late Strategic Bombing" (which normally takes place in Late 1943), your level of victory impacts the effectiveness of the Germans for the future—i.e. a Major Victory in that phase will reduce the number of German airplanes you meet in future battles.

As the German player, your objective is to win the war if possible, or, failing that, at least to delay Allied victory as long as you can.

The American tour of duty is the longest of the three to play (it has the most missions). The British tour of duty is the shortest of the three to play.



At the start of a tour, you must select the level of opposition: Easiest, Easier, Normal, Tough or Toughest. The setting you choose affects the number of enemy airplanes (determined randomly) in each enemy group you encounter. It does not affect the number of enemy groups you encounter, only the size of the groups.

You get to choose the airplane type your squadron will fly. You will be prompted by the game when new types become available. As an Allied flyer, you can influence the types of missions you fly by your selection of airplane. P-51 Mustangs and British Spitfires tend to fly air combat missions, while other types tend to fly air-to-ground attack missions.

Mission Logistics

Each mission starts with a briefing report—don't miss it! You then select pilots and armaments from the Mission Logistics screen.

Your pilots will need different armaments for different missions. Air-to-air missions usually don't need anything but guns, but on occasion you may also add aerial rockets. Ground attack missions will give you a wide choice of different bombs or rockets to carry. Bigger, heavier weapons do more damage but will slow your airplane down more, making it vulnerable in combat.

The number of missions flown and kills listed for a pilot are only those scored with *your* squadron. Some of your pilots may have previous experience (some are even aces). See also page 7 for pilot characteristics.

Some pilots (you won't know which ones ahead of time) are far more likely to abort missions at takeoff than others, but any pilot is more likely to do so if he is listed as "tired."

Click on a pilot to select him for the current mission. Click again to cycle through the possible armaments (or deselect the pilot). In this example, an airplane may carry guns ("Air to Air") or guns and rockets.

Click on "Done" after selecting the pilots.

Tired Pilots

MISSION LOGISTICS

Fw 190A-6: Rocket



Load: 480 lbs. 2 x WGR.21 rocket

Air to Air Rocket

PLANES AVAILABLE

Keen Eyes Hero Crack Shot Ace Gifted Flyer

 Maj. Ritter 4 missions, 6 kills Tired ☆☆☆ STAY HOME	 Lt. Wolff 3 missions, 2 kills Ready ☆☆☆	 Lt. Gelband 2 missions, 1 kill Ready ☆☆☆	 Lt. Kaufmann 4 missions, 3 kills Tired ☆☆☆
 Hpt. Streich 1 mission, 2 kills Ready ☆☆☆	 Lt. Zimmermann 1 mission Ready ☆☆☆	 Lt. Brauer Ready ☆☆☆	 Lt. Gerdes 1 mission Ready ☆☆☆
 Hpt. Edelstein 2 missions, 2 kills Tired ☆☆☆	 Lt. Rosenfeld 4 missions, 2 kills WIA	 Lt. Rueckner 1 mission Ready ☆☆☆	 Lt. Schreiber Ready ☆☆☆
 Hpt. Wurdig 2 missions Ready ☆☆☆	 Lt. Glotz Ready ☆☆☆	 Lt. Munchbach 3 missions, 4 kills Tired ☆☆☆	 Lt. Deldor Ready ☆☆☆

Six airplanes are available for this particular mission. Four pilots have already been selected and two remain to be selected.

Wounded pilots return to duty at the start of the next season. Likewise, pilots that are killed or missing in action are not replaced until the start of the next season.

SKILL LEVELS

Over the Reich includes five skill levels. The first two, Lieutenant and Captain, are considered "training" levels. Major and Colonel skill levels are complete games and offer the best compromise between realism and gameplay (they are not just "part way to the real thing"). The General skill level is for hardcore gamers.



Lieutenant

This is the easiest skill level. You should start here and work up when you are ready. Firing arcs are widened and engine power is boosted for easy play. Flight hazards do not take effect, so feel free to "turn and burn" with no fear of crashing.



Captain

The Captain skill level uses realistic firing arcs and engine power (the "boosts" of the Lieutenant level are removed) and introduces banking, slips and skids.

Banking: In addition to choosing a movement path for your airplane, you now also choose how to bank its wings. The banking display shows how your wings will be banked at the *end* of your move. You now have to think ahead to your next move, because it is easier to make a quick turn in the direction your wings are already banked. For example, if you think you will want to make a left turn on your next move, then leave your wings banked left on this move. Turning in a direction opposite to how your wings are banked takes longer because your airplane first has to bank in the opposite direction.

To set your bank, click on a banking button. Note the blue and yellow "arcs" placed around the small refer-

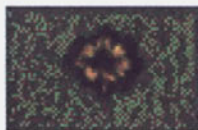
ence airplane display. These indicate the bank angles you have to choose from: yellow is the **selected** bank, blue are the **alternates**. Some airplanes bank more quickly than others.

Your choices of possible bank angles are often limited by the bank speed of your airplane (which varies by type) and the movement path you have set. For example, often when you make a hard left turn you will not be able to end such a move with a bank to the right—you will have to remain in a left bank.



Banking Buttons


Slips and Skids: The flight stick now allows moves that have small sideways shifts without changing the facing of your airplane, especially in the direction in which your wings are banked.





Major

The Major skill level adds ammunition burst-length control, stalls, spins, high-G turns, altitude on the combat mission map and blind spots.

Burst Length: You can choose three lengths of firing for your guns. Click on the bullet icon on the aircraft's weapons panel and notice how the numbers on the red crosshairs (on targetable enemies) change.

 **Snap Shot:** A quick 1-second shot. Useful if you are low on ammunition or to conserve it when taking a poorly angled shot. Recruit (no star) and Green (one star) pilots may not use Snap Shots.

 **Burst:** A normal 2-second burst. This is the most efficient use of ammunition. Recruit pilots may not use Bursts.

 **Blaze Away:** A full 4-second burst. Generally a waste of ammunition, it also risks your guns jamming.

Stalls and Spins: If your airspeed drops too low, your airplane will "stall" (this will be indicated on the speedometer). You will not be allowed to maneuver or fire guns until you have regained enough airspeed for controlled flight. Your airplane may go into a spin and change direction or even crash, so be careful!

A warning message will appear if you try to make a move that would cause a stall, and you will have the option to try again.

High-G Turns: Watch your G Meter below the throttle as you adjust the flight stick into very tight turns. The G indicator will show red instead of green (**6G** or **8G**) whenever there is a risk of damage to the airplane or pilot.

Airframe Stress: **8G** turns will risk damaging the wings of your airplane. The more stress damage you accumulate, the more vulnerable you become to suffering more of it. For example, after the first stress damage from an **8G** turn, then from that point on any **6G** or **8G** turn can potentially cause more damage. If you suffer enough wing stress damage your airplane will break up (but you will be warned before making any moves that risk destruction).

GLOC (G-induced Loss Of Consciousness): **8G** turns risk your pilot losing consciousness from the magnified force of gravity drawing blood away from his head. Recruit (no-star) pilots may not perform **8G** turns, but risk GLOC from **6G** turns.

No Firing from 8G Turns: An **8G** turn is considered an "emergency" maneuver and takes all of your pilot's energy and concentration. As such, the firing of guns during an **8G** turn is not allowed.

Altitude at Mission Scale: See page 13 for a discussion of mission altitude when flying across the map of northwest Europe.

Blind Spots: Any enemy aircraft that is not visible to a pilot (for instance, directly behind him) will not appear on the battlemap or radar screen. The online Airplane Database rates aircraft types for Cockpit View and Blind Spot.



Colonel

Airplanes now move in a strict order of sequence, and all airplanes move before anyone is allowed to fire. Furthermore, airplanes now fire in reverse order of movement, so the airplane that moves last will fire first, etc.

It is less advantageous to move early because enemy pilots see where you move and can react. Therefore, inexperienced pilots, pilots who have lost their radios, and pilots who are being closely "tailed" tend to move early. Veteran pilots usually move later and can react to the moves of others.



General

The General skill level adds climbs and dives at the battlemat scale. The flight stick can now move up and down for dives and climbs. The "O" and "L" keys also nudge the stick up and down respectively.

There are five vertical "facings": level, climb, vertical climb, dive, and vertical dive. These are pictured by the small reference airplane in the banking display.

In order to shoot at enemies you must be pointing at them vertically as well as horizontally. For example, if you are in a vertical climb, the enemy must be above you (and almost directly so). Keep this in mind as you maneuver.

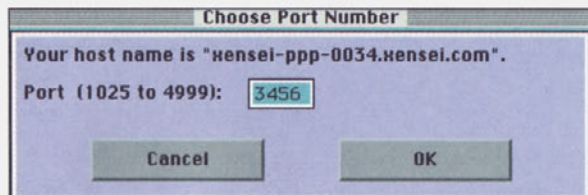
You are limited in how many "vertical facings" you can change per move. For example, to get to a vertical climb from level you must first climb. Then on the next move you will be able to pull further up into a vertical climb.

Loops and Vertical Rolls: An airplane can change facing (flip over) by pulling into a vertical climb or dive and rolling on its axis. To do this in the game, dive (or climb) until you are vertical (it may take two moves or more to get to that position). Then, while you have got the stick pushed all the way up (if diving) or down (if climbing) move the stick left and right and you will see the red movement arrow on the map changing facing as though your airplane is turning in place.

Note: We recommend you use the **Computer Suggests Moves** feature from the Options menu when playing at the General skill level.

Over the Reich may be played over the internet, too. One player will host the game and the other player(s) will join it. The host must first connect to his Internet Service Provider using his own software (usually SLIP/PPP, or click the "internet" icon on Windows 95). Users of Windows 3.1 need their own Winsock loaded (check with your Internet Service Provider if you have questions).

Once the host is connected, he then starts the game program and chooses a Dogfight scenario. You may play any Dogfight scenario over the internet, including Design Your Own, but not Combat Missions or Tours of Duty. The host will see the following window:



After choosing the port number and clicking OK, the host will see a Waiting window (example below). He then needs to provide the other player(s) with the IP address and Port Number shown in his window.



As players join the game, their names will appear here.

To join an internet game, you must connect to your Internet Service Provider before starting the game. Then click on the Join Internet Game telephone in the Office screen. You will be prompted to enter the host's IP address, host's port number, your nickname and a note to the host (in this example, "Other Guy" has joined, noting "I'll win this time!").

After all the players have connected, the host clicks the Play Game button. The players will then choose sides. At the beginning of a multiplayer game over the internet, one player per side controls all the airplanes. He uses the "Transfer Airplane to Internet Wingman" item from the Pilot menu at the top of the screen to give control of the selected airplane to one of his teammates.

While the dogfight is raging, players may use the Network Radio Window from the Special menu at the top of the screen to send messages.



GAME MENUS

Use the pull-down menus at the top of the screen to implement or select/deselect a given feature. Some features have hot keys. The hot keys for Macintosh systems use the “⌘” key instead of “Alt.” For example, press “⌘Q” to quit the program.

File Pilot Battlemap Options Special

Save Game	Alt+S
Stop Game —returns you to the Office screen.	
Quit	Alt+Q

File Pilot Battlemap Options Special

Suggest a Move	Alt+M
-----------------------	--------------

Adjusts the flight path to what the computer thinks is the selected aircraft's best move.

Disengage... **Alt+D**
If the battle is going badly for you, you might decide discretion is the better part of valor and wish to disengage from combat. Move your airplane so it is at high speed and pointing away from all enemies (this may require a few moves). Then choose “Disengage” from the Pilot menu. If you are far enough away from the enemy, your airplane will be removed safely from the battle.

Full Squadron Disengage...
As “Disengage” but applies to all of your aircraft.

Jettison External Armaments—i.e., bombs and rockets.

Bail Out—use in moments of extreme stress.

Quickly Finish Combat... **Alt+W**
The computer will take over all moving and firing and quickly finish the combat. You may regain control at any time by clicking the mouse.

Transfer Airplane to Internet Wingman... see page 19.

File Pilot Battlemap Options Special

Change Zoom	Alt+Z
✓ Sky Background	Alt+K
✓ Faster Movement	Alt+F
✓ Show Altitude Color Code Circles	Alt+C

Draws a circle beneath each airplane. The border of each circle is colored according to its altitude relative to the selected airplane: red means **above**, white means co-altitude, blue means **below**. The inner part of the circle is colored according to nationality.

✓ Show Altitude Values	Alt+A
✓ Show Relative Altitudes	

When checked, shows *relative* difference in levels to the active airplane (+/-). Otherwise, the “Show Altitude Values” feature shows *actual* altitude levels.

✓ **Autoscroll**—turns battlemap autoscroll on/off.

File Pilot Battlemap Options Special

✓ Show Video —turns video clip feature on/off.	
✓ Use Smaller Videos	

Useful for 1x- and some 2x-speed CD-ROM drives.

✓ Show Defensive Gunnery Video	
✓ Computer Suggests Moves	

The flight stick is automatically positioned in what the computer thinks is your best move.

✓ Cursor Help —turns description feature on/off.	
✓ Indicate Phases With Message —only applicable at Colonel and General skill levels.	
✓ Control Stick Locks —Only applicable at General skill level. When selected, the control stick only moves in	

one dimension (either horizontal or vertical) at a time. This is helpful if you like to set your altitude first, and then swing the stick left and right while keeping the altitude constant. If this option is off, the stick moves freely.

- ✓ **Sound On**
- ✓ **Background Battle Music**—Macintosh and Windows 95 only.

Click on desired nationality button.

Select aircraft type from menu.

Show, hide or compare data.

The screenshot shows the 'Airplane Database' window with the following data:

File Pilot Battlemap Options Special

USA P-51D-5 Show Data Done

P-51D-5 Hit Points: 18
 Crew: 1 Armor: Cockpit +2 Fuel: +2 Engine: 0
 Ceiling: 42000 ft Firepower: 22
 Cockpit View: Good Fixed-Forward Guns:
 Blind Spot: Slim 1 x 50 calibre M2 (ammo 15)
 Rate of Roll: Average 2 x 50 calibre M2 (ammo 10)
 Sustained Turn Drag: 9 3 x 50 calibre M2 (ammo 10)
 1 x 50 calibre M2 (ammo 15)

Altitude	Stall Speed	Max. Speed	Safe Dive	Max. Acceleration	Snap Turn	Climb (ft/min)
32000	156	432	577	36	8	1326
20000	127	427	594	54	10	2478
5000	92	389	544	54	13	3978

Often touted as one of the best fighters of the war, the North American P-51 Mustang actually originated as an under-powered, low altitude strafeur with an Allison engine meant for export. However, at the suggestion of a British test pilot, North American redesigned the airplane to accept a Packard-built, super-charged Merlin engine. The Merlin produced 400 horsepower more than the Allison, transforming the Mustang from a modest low altitude fighter-bomber into a potent high altitude fighter. Armed with four or six 50 caliber guns, and empty loaded with gas, the P-51 proved to be just what the 8th Air Force needed as an escort fighter. With a pair of drop tanks it could

Show Takeoff Show In Flight Show Maneuver Show Escape

File Pilot Battlemap Options Special

Show Airplane Database

Alt+B

You can also Control-click (Windows) or Option-click (Macintosh) on any airplane on the battlemap to bring up its database.

Show Network Radio Window

Alt+R

Most of the Airplane Database items are self-explanatory but here are some that are not:

Rate of Roll: How quickly the airplane can change bank.

Sustained Turn Drag: A measure of how much the airplane decelerates when turning. This can be offset by a powerful engine (see the acceleration rating). Lower numbers are good for dogfighting.

Hit Points: How much damage the airplane can take before going down.

Snap Turn: A measure of how quickly the airplane can change heading in a turn. Higher numbers indicate quicker turns.

Click on Done button to return to main program.

Click on bottom buttons to see video footage (several clips each).



Dogfighting

The first thing you should do before dogfighting is check the strengths and weaknesses of your airplanes versus those of the enemy. Control-click (or Option-click on a Macintosh) on an airplane to bring it up in the on-line database. Check its performance data and pay special attention to its "snap turn" rating.

If your airplane has a lower snap turn rate than your enemy, you should avoid dogfighting at close quarters (though good acceleration or low sustained turn drag can help offset this) unless you have a large number of airplanes. The reason is that if your enemy turns more tightly than you do, then fighting with tight turns at close range simply plays to his advantage.

If your fighters maneuver poorly (e.g., Focke Wulf 190), then try to fight using high-speed "slashing" attacks. This means approaching the enemy head-on, taking a shot if you can, then passing him and instead of immediately reversing course, extending away at high speed. You can dive to gain speed if you're playing at the General skill level. Keep going until you

have put a safe distance between you and the enemy. Then turn around (perhaps reversing in the vertical) and go in for another pass. If you have several airplanes all doing this at once, have your airplanes "slash" from different directions and you can keep the enemy off balance not knowing where your next "slash" will come from. You will have to settle for a lot of low-percentage shots from poor angles but hopefully you can keep the enemy from getting a chance to shoot you at all, and sooner or later you'll score a lucky hit. This reduces the importance of maneuvering and so mitigates your weakness. Just remember to avoid

significant turning because it will slow you down. Speed is your friend when your enemy maneuvers better than you do because speed can get your airplane out of danger.

The only problem with the slashing attack strategy is that it requires at least two and preferably about four fighters to make it work. It is essentially a team strategy. So

if you find yourself with only a single unmaneuverable airplane faced with a nimble foe (e.g., a Fw 190 versus a P-51 Mustang or Spitfire), it is usually advisable to disengage and live to fight again another day.

One exception to the above is that in a big battle with a lot of airplanes the importance of maneuverability is lessened because with so many airplanes covering the sky you don't have to maneuver so much to find a target. In such a battle, firepower and structural toughness become more important.

// I came in with altitude also to my advantage and caught this 109 in a climb, came in from behind, and went right on by with my eight guns blazing. I practically blew him up. But it was sobering. I had to think that I did that to that airplane, there are other German airplanes that could do the same to me."

—Francis "Gabby" Gabreski, USAAF ace

Ground attacks

First, size up the anti-aircraft artillery (AAA) defenses. If they are strong, they may require knocking out before you can concentrate on the main target. But make this decision early—it makes no sense to ignore the AAA at first, take damage, and *then* go after them. If you are going to attack the AAA, attack it *first*.

AAA units can be knocked out of action before actually being destroyed. This represents the crew being wounded or running away and happens any time the gun has received more than 50% damage. A gun can be temporarily suppressed for a few moves when it is hit with lesser damage.

Unless you have knocked out the AAA defenses, try to make group passes over the target. Keep your airplanes in a group, presenting more targets than the AAA guns can manage. Pass over the target, attacking

it as a group, then extend away and reverse direction out of effective AAA range. Otherwise, if you come in piecemeal, the guns can fire at you individually and pick you off. It is better to overwhelm them.

If AAA defenses are heavy, don't slow down too much. Flying below 300 mph is risky and below 200 mph is suicidal.

If you have bombs, use them first. Drop them and peel off to observe the results before making another pass. Use one bomb at a time if you are carrying more than one ("safe" the other one before dropping).

Rockets are quite effective, especially against tanks. But rockets have a limited effective range. Fire from range 1 or 2 if you can to maximize accuracy.

—Charles Moylan

Equivalent Ranks of the Combatants

U.S. ARMY AIR FORCE	LUFTWAFFE	ROYAL AIR FORCE
General	General	Air Commodore
Colonel	Oberst	Group Captain
Lieutenant Colonel	Oberstleutnant	Wing Commander
Major	Major	Squadron Leader
Captain	Hauptmann	Flight Lieutenant
1st Lieutenant	Oberleutnant	Flying Officer
2nd Lieutenant	Leutnant	Pilot Officer



HISTORICAL BACKGROUND

The Allied air campaign against Germany in 1943-1945 ranks as one of the most intense and destructive ever seen in the history of aerial warfare. When Allied leaders met in January 1943 at Casablanca, the decision was reached to wage a "round-the-clock" bombing campaign against the German Reich with two main objectives: to destroy the German military, industrial and economic systems and to undermine the morale of the German people. The basis behind this strategy was the realization that a ground invasion of Hitler's "Fortress Europa" would not be possible until sufficient resources were built up, which would require more than a year. Until then, the only way for the Western Allies to put pressure on the Germans in Europe was from the air.

To carry out the strategy, the Royal Air Force's Bomber Command was instructed to continue its attacks on German cities by night, while the newly arrived American 8th Air Force would conduct precision bombing attacks against German industrial targets by day. At the time, there was considerable doubt that the American bombers could survive in daylight raids against the Luftwaffe. Earlier in the war British bombers had suffered terrible losses attempting attacks by day, and that experience had prompted Bomber Command to shift entirely to night attacks. General Ira C. Eaker, head of the 8th Air Force, felt otherwise and expressed confidence that American long-range bombers, flying unescorted in massed formations with their unpre-

cedented heavy defensive armament, could repel German fighter attacks. He would be proved wrong, but by the time that occurred, long-range escort fighters were coming into use and their presence would allow precision daylight raids to resume.

The Luftwaffe had been born from the ashes of Germany's defeat in WWI and had grown into a formidable force by the outbreak of WWII. Equipped with thoroughly modern airplanes at the start of the war and oriented toward supporting the field armies, the Luftwaffe had been a critical factor in Hitler's rapid conquest of Europe and his successful initial assault on Russia. Even though the Luftwaffe was fought to a draw by the British during the Battle of Britain, the lessons garnered there were lost in the wake of subsequent easy victories in Russia, Greece, North Africa and the Balkans. Thus, lulled



by their cheap victories early in the war and by a certain sense of denial, the Germans would fail to have their industry—and more importantly their pilot training programs—geared to full war time levels of production until as late as 1943. Also, rather than push to produce improved aircraft designs, Germany's high command was content to rely on the same designs that had carried them through the early part of the war. Not until they found these designs being out-performed and out-classed by new Allied aircraft was major effort put into regaining a technological edge. By then, however, it was too late.

At the start of 1943, the tide of the war was turning against the Axis powers. The Germans were halted on the Russian front and the 6th Army was surrounded at Stalingrad. Rommel's Afrika Korps was in retreat in North Africa and the Japanese had suffered a serious defeat at Midway. In late 1942, the Americans had begun a rapid and ominous buildup of the 8th Air Force in England. Incredibly, when presented with evidence that the Americans would soon be producing 5,000 aircraft a month or more, and when shown photos of the bomber build-up in England, the head of the Luftwaffe, Reich Marshal Herman Goering, scoffed, claiming it was all an Allied bluff and deception. At the time, there were only two fighter Geschwaders (wings) tasked with the daytime defense of Europe: JG 26 and JG 2. (There were also a number of nightfighter units holding the line against the RAF Bomber Command's night attacks.)

The majority of the Luftwaffe was stationed in Russia, North Africa and Italy, being bled dry as one front after another began to collapse. The Germans were losing over 1,000 aircrew a month and replacing them at only half that rate. Aircraft production barely kept up with losses. General Adolf Galland, head of the German fighter arm, was aware of this and sought to have pilot training rates and fighter production rates increased to be ready for the coming American and British attacks. His warnings were ignored. In fact, Hitler insisted that continued production of bombers be emphasized over fighters. These would prove to be serious errors in strategy.

//They [American heavies] flew in very narrow formation. If you approached them, you would fly through a snow-storm of missiles—projectiles from 30 to 40 machine guns. You would close your eyes. Young pilots, by the end of the war, could survive only two such attacks on the average—and then they were dead.”

—Johannes “Macki” Steinhoff, Luftwaffe ace

The first raids by the 8th Air Force in 1943 were small compared to what would follow. The German fighters responded very tentatively as the Luftwaffe pilots felt out the American heavy bombers' defenses. This timidity was initially interpreted as proof positive that the bombers could stand alone. Within a few months, however, the Germans modified their tactics and up-gunned their fighters. Using rockets and head-on attacks, they became increasingly effective, inflicting serious losses on the bomber formations. They also learned to avoid the short-range Spitfires and

Thunderbolts, often waiting until these were forced to turn back from lack of fuel before attacking the bombers. In October 1943, a series of raids into Germany were heavily contested and scores of heavy bombers were shot down on each raid. These devastating losses temporarily halted the deep raids into Germany, and this was mis-

takenly seen by the German high command as evidence that their defenses were still adequate, though Reich Marshal Goering finally conceded that more defensive fighters were indeed going to be needed. Unfortunately, just as quickly as extra fighters were built, and extra pilots trained, they were shipped off to the Russian and Italian fronts by Hitler to try to help stem the Allied advances there. The actual defense of Germany continued to be a secondary priority until late in 1943 when the Italians capitulated, freeing the U.S. 15th Air Force to begin attacks on Germany from the south. This put additional pressure on the Luftwaffe and a number of fighter units were recalled from Russia to beef up the defenses.

HISTORICAL BACKGROUND

By early 1944, the situation had changed even more drastically. The 8th Air Force, recognizing that unescorted bombers were vulnerable, instituted numerous changes, including new formations and increased firepower for the bombers, larger capacity drop tanks for their P-47 fighters, and the arrival in theater of long-range P-38 Lightning and P-51 Mustang fighters. With long-range fighters covering the bombers on every mission, German fighter effectiveness fell considerably and Luftwaffe losses increased. Rushed out of training with little experience, German replacement pilots were easy pickings for Allied fighters, even when equipped with new models of the Bf 109 and Fw 190, which could match the performance of Allied fighters. To make matters worse, General James H. Doolittle, upon taking command of the 8th Air Force in 1944, freed his fighters to relentlessly seek out, pursue, and destroy the Luftwaffe, both in the air and on the ground. Until that time, Allied fighters had been restricted to close escort duties, meaning they were not allowed to pursue and attack German fighters that were not an immediate threat to the bombers. General Doolittle's change in strategy and the seemingly unlimited supply of new Allied planes and pilots arriving in England spelled doom for the Luftwaffe. Marauding Allied fighters strafed all manner of targets and regularly attacked German airfields, though losses to flak were high.

As it became obvious that conventional fighters would be unable to stem the tide of Allied aircraft, the Luftwaffe's leaders began to put their hopes into the

production of advanced fighter aircraft. Secret prototype jet- and rocket-propelled fighters, the Me 262 and Me 163, had been experimented with in 1943, but the German high command had failed to recognize their potential and no emphasis had been given to their future development. When opinions finally shifted and German industry tried to get production of these new aircraft started, they were beset by a multitude of problems. First, the tooling to begin mass production was not in place, and second, there were fuel shortages and serious technological problems to be overcome with the

new jet and rocket engines. Many bugs had to be worked out and jet engine failures were common. By June 1944, the Me 262 was finally ready for mass production, but the Allied invasion of France that same month convinced Hitler that the jets would be best employed as fast bombers against Allied ground forces. Misused as a bomber, the jet was

not even issued to fighter units until several months later and most of its impact was blunted.

In the final months of 1944, the German Army, under tremendous pressure from both Allied and Russian forces, tried to turn the tide of the war by launching a short-lived counterattack in France which became known as the Battle of the Bulge. The Luftwaffe suffered heavy losses trying to support their ground troops, and in the end the attack failed, hastening the eventual defeat of Germany in the spring of 1945. General Adolf Galland had spent the latter half of 1944 building up a reserve of several hundred fighter pilots through hastened training programs and the retraining

//We were flying along at about 350 to 400 miles an hour, and this jet came down through our formation, and I just saw this thing go by. He didn't shoot at us; I think they were just harassing—a morale thing or something, trying to show us what a fast airplane they had. We all said, 'What the Christ is that?!'"/>

—Andrew Mackenzie, RCAF ace

of bomber and transport pilots for fighters. Unfortunately, Hitler intervened and decided to use this reserve to conduct a massive surprise raid on Allied airfields in France in support of the Battle of the Bulge. Known as Operation Boden-Platte, the assault was launched at dawn on the first day of the new year. Though well planned, the largely inexperienced pilots were incapable of bringing the attack off without high losses. Heavy damage was inflicted on several airfields, and on one over 100 Allied aircraft were destroyed, but the attack also cost the Luftwaffe its carefully hoarded reserve of pilots. Almost 300 were lost in this operation, many to German flak, which had not been warned about the attack and mistook them for Allied aircraft. It was a futile effort, with little impact on the war. The Allied losses in planes were replaced within two weeks from overstocked depots in England, and less than a dozen Allied pilots had been lost.

When General Galland bitterly protested the loss of his reserves, he was relieved of his command. Long considered a troublemaker by Reich Marshal Goering, Galland was ordered back into combat in the hopes that he would perish heroically as head of JV 44, a special fighter unit. Allowed to hand-pick his own pilots, and equipped with Me 262 jet fighters, Galland would lead JV 44 to a brief period of glory, inflicting heavy losses on Allied aircraft until halted by the final collapse of Germany. JG 7, the only other unit to effective-

ly use the Me 262, also scored many successes. The diminutive Me 163 rocket fighters, of which less than fifty were ever operational, equipped KG 400 but failed to accomplish much, and proved to be as dangerous to their own pilots as to the Allies.

The war in Europe ended in April 1945, just a few days after Hitler committed suicide in his Berlin bunker as Russian troops stormed the city. Throughout the war, the Luftwaffe had fought with dedication and courage. However, despite the best efforts of its pilots and warnings of its unit commanders, the Luftwaffe had been stretched thin over too many battlefronts. Overwhelmed in the latter half of the war by the superior quantity and quality of the combined Allied air forces, it had succumbed to attrition and bad leadership. In a strange twist of fate, German citizens would for many years after the war blame the Luftwaffe

for failing to stop the Allied bomber attacks. This was because Hitler and Goering in their final hours also blamed the Luftwaffe, making it the scapegoat to a lost cause. The truth is German fighter pilots gave it their all. Against impossible odds, they manned their planes with courage and determination, rising without hesitation to do battle over the Reich.

—J.D. Webster





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